

REMARKS

Attached is form PTO-1449, listing the references of record in parent application PCT/GB00/01732, so that those references might be listed on the face of any patent issuing from this application. Applicants thank the examiner for bringing to their attention the absence of an earlier submitted form PTO-1449.

Claim 1 has been cancelled and claim 16 has been amended to correct typographical errors, it being noted with appreciation that claims 16 and 17 are allowed. In addition, to better define the scope of protection to which applicants appear to be entitled, new claims 18-61 are presented.

The references cited in this Office Action, Credle WO91/17948 and Whigham et al. U.S. 5,011,043, do not teach or suggest the invention of new claims 18-61. In neither reference is progressive precise control exercised over the flow ratio of two liquid components dispensed from a valve from the point when the valve is first opened until the valve is closed, as is the case in applicants' invention. In particular, and unlike that required by claims 18-61, in neither reference is the state of a valve progressively controlled between a closed state of the valve, an open state of the valve and all states therebetween. In Credle there is no progressive control of a valve, since the on-off flow through a valve is controlled by an on-off solenoid. Only after the Credle solenoid is energized to open the valve is the flow rate of fluid through the valve controlled by a standard piston-spring flow control 128 in the valve flow passage, and when it is time to close the valve, the solenoid is deenergized to accomplish closing. Similarly, in

Whigham et al. the on-off state of fluid flow through a valve is determined by the energized or deenergized state of an on-off solenoid 18, the solenoid being energized to open the valve and then deenergized to close the valve. Only after and while the on-off solenoid is energized to open the valve is the flow of fluid through the valve controlled by a mechanism including a motor 32, with the solenoid subsequently being deenergized to close the valve. Thus, in neither Credle nor Whigham et al. is a valve progressively controlled between a closed state of the valve, an open state of the valve and all states therebetween to progressively adjustably control fluid flow through the valve. Instead, each of Credle and Whigham et al. use a solenoid to first open a valve before any control is exercised over fluid flow rate through the valve, and then subsequently use the solenoid to close the valve, with the result that control over fluid flow through the valve is not progressive.

Accordingly, neither Credle nor Whigham teaches or suggests the claim requirements of progressively controlling a valve between closed and open states and all states therebetween to provide progressively controlled fluid flows through the valve. New claims 18-61 therefore distinguish and are allowable over the references.

In view of the foregoing and as all of the claims in the application appear to be allowable, favorable reconsideration and early passage of the application to allowance are respectfully requested.

Application No. 09/980,912
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Reply to Office Action of November 17, 2004

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert A. Lloyd". The signature is fluid and cursive, with the first name "Robert" being more prominent.

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